PRODUCT ANNOUNCEMENT (USD)
5502A and 5502E Multiproduct Calibrators

New Fluke Calibration 5502A/5502E Multi-Product Calibrators provide robust, transportable solution for calibrating in the lab or the field

What is NEW

Improved functional performance throughout the instrument ……

The 5502A/5502Ecombine the best of its predecessors, the 5500A/5500E(accuracy) and 9100 (20 A current) calibrators, plus adds improvements found in the superior 5522A (wider ranges of resistance and capacitance, protection and transportability). The result is the best in class performance for a MPC aimed at the Tier 3 calibrator user (workload of the 3.5 – 4.5 dmm class of instrument). The 5502A/5502E are the best Multiproduct Calibrators compared to any other calibrator on the market for this class of workload

Output terminal electrical overload protection ……

The 5502A/5502E provide reverse power protection up to a minimum of 300 volts, with immediate output disconnection when overloads are applied. Plus it is protected from over current damage by fuses on the current output terminals. There is robust overload safety for all functions.

Improved Ergonomic Design ……

The 5502A/5502E have new look and feel pioneered with the 5522A. The 5502A/5502e have larger, ergonomic handles for easier access to connection terminals and are more comfortable to use when carrying the instrument.

Easily Transportable and Ready to Work ……

The 5502A/5502E are compatible with the 5522A'scarrying case with wheels and built in handle, making the move process very easy. The new carrying case has detachable front and rear covers so it is immediately ready to work without being removed from the case!

Comparison 5502A vs 5502E

The 5502E is identical to the 5502A, except the following functions are not applicable:

- The DC and AC Power (Simultaneous Voltage and Current options) functions
- The Dual Voltage (Simultaneous Voltage/Voltage output) function
- The Phase function
- The Harmonics function

- The rear panel 10 MHz Reference IN and OUT connectors are not functional. The terminals are for service only.
- The 300 MHz and 600 MHz options are not compatible with the 5502E.

The 5502E is targeted at those customers who have a limited workload of handheld test tool instruments. Such customers include various calibration labs, small in-house calibration and repair workshops or meter manufacturers needing production and test calibration capabilities.

5502A/5502E MPC at a glance

Fluke Calibration introduces the 5502A/5502e Multi-Product Calibrators, full-functioned calibrators that cover a wide range of common workload. The 5502A/55502E have the best full range of functions and accuracy in its class.

The Fluke Calibration 5502A/5502E feature:

- 11 full functions, including calibrating 3.5 and 4.5 digits digital multimeters
- 50 ppm dc V accuracy
- 20A of dc and ac current for calibrating current clamps and current meters
- Wider ranges of resistance (to 1100 M ohms) and capacitance (to 110 mF)
- Oscilloscope calibration to 300 or 600 MHz (models 5502A/3 and 5502A/6)
- Reverse power protection, check before connect, immediate output disconnection, and fuse protection on the output terminals for “mistake proof” protection against common user errors
- Paired with the 52120A the 5502A/5502E can supply up to 120A directly and usable with 25 & 50 turn coils.
- Easy transportation with an optional rugged carrying case featuring built-in handles and wheels, and removable front/rear access doors for in-situ calibration in almost any environment

In summary, the 5502A/5502E source direct voltage and current, alternating voltage and current with multiple waveforms and harmonics, two simultaneous voltage outputs or voltage and current to simulate dc and ac power with phase control, resistance, capacitance, thermocouples and resistance temperature detectors.

The 5502A/5502E can be fully automated with MET/CAL® *Plus* Calibration Management Software to improve throughput, consistency and productivity. MET/CAL *Plus* helps meet the requirements for documented processes, procedures and reports mandated by most quality standards.

Introduction Schedule

The 5502A calibrator will be open to accept orders on September 1, 2012 (Embargo Date)
Initial delivery time: 8 weeks ARO.
Standard delivery targeted to be 4-6 weeks.

Ordering and pricing information

Item Number	Model	Description	USD
4190103	5502E 120	Multi-Product Calibrator	15400
4190248	5502E 240	Multi-Product Calibrator	15400
4184101	5502A 120	Multi-Product Calibrator	20295
4184112	5502A 240	Multi-Product Calibrator	20295
4188629	5502A/3 120	Multi-Product calibration + 300 MHz scope option	29120
4188760	5502A/3 240	Multi-Product calibration + 300 MHz scope option	29120
4189037	5502A/6 120	Multi-Product calibration + 600 MHz scope option	37070
4189134	5502A/6 240	Multi-Product calibration + 600 MHz scope option	37070

Bundle discount

For the 5502E/5502A also the recently introduced bundle discount (as per previous 5500A/E models) applies :A discount of 30% on the total price of the software and hardware when purchasing MET/CAL/BASE software (database with 1 license).

Accessories (already previously available with the 5500A)

Item Number	Model	Description
3621734	55XX/CASE	Transit Case
3987582	5522A/CARRYCASE	5522A Carry Case With Removable Front/Back Panels
109949	5500A/LEADS	Comprehensive Test Lead Kit for 5500A and 5520A
200664	5500A/COIL	50 Turn Current Coil
1583963	9100-200	10 and 50 turn Current Coils
104460	Y5537	Rack Mount Kit 7" for 5500A
109931	5500A/HNDL	Side Handle
661758	5800A-7002K	2 Output Cable Set
661774	5800A-7004K	5800A Calibrator BNC Connector Kit

Demonstration Kit

The demo kit includes the 5502A calibrator, Fluke 1587 dmm and insulation tester, and transit case (55XX/CASE for free). The regular 10% additional demo discount applies.
A 1587 dmm/insulation tester is used to show that the 5522A can sense and turn off when high voltages are applied to it terminals without any problem. The 1587 can supply voltages at varying levels from 50 volts to over 1000 volts. Yet, because of its current limiting design, it is very safe to use in a demonstration environment.

Demo Kit Ordering Information

Item Number	Model	Description	USD
4189560	5502A/DEMO 120	Demo Kit 5502A/6 with 1587 DMM and 55xx Case	37385
4189666	5502A/DEMO 240	Demo Kit 5502A/6 with 1587 DMM and 55xx Case	37385

Phase-in / Phase-out Requirements

The 5502A MPC replaces the older Fluke models 5500A and 9100 calibrators. These will be phased out sometime following the 5502A introduction. The 9100 will initially be phased out first due to part limitation issues, followed later by the 5500A.

Features and Benefits

Features	Benefits
Calibration performance over 11 different standard functions	Addresses a wide range of workload, with accurate, complete and fully capable functions (wide ranges with professional capabilities that cover the needs of this workload). Workloads include up to 4.5-digit DMMs, as well as temperature instruments, data loggers, strip chart recorders, and other core T&M instruments.
Optional Scope Calibration to 600 MHz	Optional scope calibration with full functions includingleveled sine wave covering bandwidths to a max of either 300 MHz or 600 MHz, fast edge for rise time, time marker, wave generator, varying amplitude settings, pulse, various trigger testing, and input impedance measurement.
20A dc and ac with high compliance and long “on” time	A max current of 20.5A that can drive a compliance voltage of 4 volts dc, 3V rms ac, with an on time of at least 20 minutes in a typical lab condition. Other competing calibrators limit max current to 30 seconds of operation or less with compliance current at 1/10 of this capability.
Fully Variable Resistance from 0 to 1100 M Ohms	The 5502A/5502E provide an accurate, calibrated resistance at the exact value the UUT needs. Competing calibrators offer only limited number of fixed resistors and optional variable resistance with a poor spec and only over a limited range of values.
Fully variable capacitance from 220 pF to 110 mF	The 550wA provides an accurate, calibrated capacitance at the exact value the UUT needs. Competing calibrators offer only a few fixed capacitance values and optional variable capacitance with a poor spec and only over a very limited range of values.
Protection circuitry	Protects the calibrator from being damaged due to an unfamiliar UUT or out of lab conditions, or operator error. Cost of ownership is reduced due to robustness and increased uptime
Power calibration *	Conveniently calibrates digital watt meters, and power quality instruments.
Compatible with Fluke 5500/Coil and 9100-200 Dual Coil	For users who need to calibrate instruments that measure up to 1000 Amps.
Versatile software solutions	Customers can select from several software solutions based on their needs and budget.

* Not on 5502EModel available

5502A/5502E Summary Specifications

Technical Specifications	
Voltage DC	Range: 0 to ±1020V Best 1 Year Specification: ±0.005% of setting
Current DC	Range: 0 to ±20.5A Best 1 Year Specification: ±0.01% of setting
Resistance	Range: 0 to 1100 MΩ, continuously variable

	Best 1 Year Specification: ±0.009% of setting
Voltage AC	Range: 1 mV to 1020V 10 Hz to 500 kHz, Sine Best 1 Year Specification: ±0.03% of setting
Current AC	Range:29 mA to 20.5A 45 Hz to 30 kHz, Sine Best 1 Year Specification: ±0.04% of setting
Capacitance	Range:220 pF to 110 mF, continuously variable Best 1 Year Specification: ±0.25% of setting
Thermocouple Simulation& Thermocouple Measure	11 Thermocouple typesplus voltage at either 10uV or 1 mV per degree Celsius Best 1 Year Specification: ±0.14°C
RTD Simulation	8 RTD types Best 1 Year Specification: ±0.03°C
DC Power*	Range:10.9 mW to 20.9 kW Best 1 Year Specification: ±0.33% of watts
AC Power*	Range: 10.9 mW to 20.9 kW 10 Hz – 30 kHz, PF= variable 0 to 1, lead or lag Best 1 Year Specification: ±0.08% of watts
Phase*	Range: 0 to ± 179.99° 10 Hz to 30 kHz Best 1 Year Specification: ±0.15° of setting
Frequency	Range: 0.01 Hz to 2 MHz Best 1 Year Specification: ±2.5 ppm of setting
Additional Functions	Harmonics, 2nd to 50th* AC Voltage, non Sine Waves: Triangle, Truncated Sine, Square AC Voltage with DC Offset AC Current, non Sine Waves: Triangle, Truncated Sine, Square

* Not on 5502EModel available

Target Market

Third party calibration labs andin-house calibration labs need a calibratorwhich can support for a wide range of electrical T&M workload. The 5502A can also be used for production testing for manufacturers of Test and Measurement instruments or other items needed a multifunction precision source.
There are thousands of existing owners of older 5500A and 9100 calibrators who are candidates to have them replaced with a new, improved model – the 5502A.

Points of differentiation

with 5500A:

5502A	5500A
Max 20.5 A of dc and ac current	Max 11 A of dc and ac current
1100 M ohms max variable resistance	330 M ohms max variable resistance
220 pF to 110 mF variable capacitance	330 pF to 1.1 mF variable capacitance
Input Terminal Protection to 300V	
Improved Chassis Design	
Ergonomic Handles	

with 9100:

5502A	9100
Basic dcv accuracy of 50 ppm / year	Basic dcv accuracy of 60 ppm / year
1100 M ohms max variable resistance	400 M ohms max variable resistance
ACV to 500 MHz	ACV to 100 MHz
220 pF to 110 mF variable capacitance	500 pF to 40 mF variable capacitance

.01 Hz to 2 MHz Frequency	0.5 Hz to 10 MHz Frequency
Not required, no benefit to the user	Lead connection mat
No such function available (recommend a 5320A or optional with 5080A)	9100-135: Insulation/Continuity Tester Calibration Module
Obsolete and not available (use MET/CAL or computer automation)	PCMCIA Storage Modules

with Transmille 3041:

5502A	Transmille 3041
All functions of the 5502A have full operating ranges, without compromises, can drive full loads or perform over wide conditions.	The Transmille specs have good or adequate performance over a very limited set of conditions, cannot operate over a range of loads or testing times. Refer to the detailed comparison material of Fluke for more information.
20A current with strong compliance and long operating time	Specs to 30A, but usable only to 20A, poor compliance, short operating time
Fully variable resistance to 1100 M ohm	Fixed resistors with adequate specs, optional poor and limited variable resistance
Fully variable capacitance to 110 mF	Limited set of 7 fixed capacitors and optional poor variable capacitance over just a few ranges.
The scope option has a full set of testing functions that can be fully adjusted over the necessary needs of an oscilloscope	The scope option has few scope calibration functions with severe limitations on its key functions, with poor accuracy which makes scope calibration impractical

With Transmille 3050:

5502A	Transmille 3050
All functions of the 5502A have full operating ranges, without compromises, can drive full loads or perform over wide conditions.	The Transmille specs are inferior versus the 5502A with adequate performance over a very limited set of conditions, cannot operate over a range of loads or testing time. Refer to the detailed comparison material of Fluke for more information.
20A current with strong compliance and long operating time	22A max current with weak specs, poor compliance, short operating time
Fully variable resistance to 1100 M ohm	Just a 8 fixed resistors over a small range of decades values and no variable resistance
Fully variable capacitance from 220 pf to 110 mF	Limited set of 5 fixed capacitors, and no variable capacitance.
Fully capable thermocouple and RTD temperature calibration functions	No temperature calibration option
The scope option has a full set of testing functions that can be fully adjusted over the necessary needs of an oscilloscope	The scope option has few scope calibration functions with severe limitations on its key functions, with poor accuracy which makes scope calibration impractical

Sales Material and Tools

Check the European Launch Page 5502A/5502E Multi-Product Calibrators.

Service Requirements & Plans

The 5502A is serviced and calibrated in all major Fluke service centers that are able to service 5500 series and 9100 series calibrators.

Frequently Asked Questions

1. **What comes standard in a 5502A?**The 5502A calibrator comes standard with all its various electrical calibration functions. Scope calibration capability is optional. Included is a full report of calibration with data. An accredited report of calibration is optional.

2. **What options can be installed in the 5502A?** The two scope calibration options (300 MHz and 600 MHz) are the only options for this calibrator. These are available at time or purchase or installed by a service center at a future date as an upgrade.

3. **Is there a trade in program for 5500As or 9100s for a 5502A?** No trade in program is in place at this time.

4. **Is MET/CAL compatible with the 5502A?** Yes MET/CAL Release Version 8.1 is able to fully control the 5502A (Due out in Q3 2012).

5. **How will existing MET/CAL users get this version of MET/CAL?**Upgrades are available through the Gold support program, or as a purchased upgrade.

6. **Will existing MET/CAL 5500 or 9100 procedures work with the 5502A?** No, because the calibrator's output terminal configuration is different – and the resulting operator safety issues – a different FSC must be used to operate the 5502A with MET/CAL (rather than use the existing 5500A or 9100 FSCs).

7. **Will the 5502A FSC use the old 5500A style syntax, or the newer 5522A style syntax?** The 5502A will use the new Name Value Instrument syntax (NVI) – giving the user better flexibility in use, editing, and future calibrator upgrade compatibility.
   - The 5500A used the old FSC syntax style MET/CAL implemented the 5502A with the new structure of FSC, similar to the 5522A FSC. As a result any 5500A procedures will need to be converted to the new FSC syntax. This can be done by the MET/CAL user, or by a translator process. More information on the translation process will soon to be furnished by the MET/CAL team.
   - Similarly any existing 9100 procedures will need to be translated to the new 5502A MET/CAL FSC syntax.

8. **Does the 5502A usesame the commands of other Fluke 55XX calibrators?** Yes the 5502A uses the same remote control commands as the earlier 5500A, 5520A and 5522A series calibrators. The only difference is that it answers the remote ID command with a response of being a 5502A.

9. **Does the 5502A emulate the commands of Fluke/Wavetek 9100 calibrators?** No the 5502A does not emulate the Fluke/Wavetek 9100 calibrator remote control commands.

10. **What is the future availability of the 5500A calibrator?** The 5500A will be phased out approximately 6 months after the 5502A introduction.

11. **What is the future availability of the 9100 calibrator?** The 9100 will go on limited availability with a last time buy period soon.

12. **Is the 5500A upgradable to 5502A?**No a 5500A is not upgradeable to a 5502A.

13. **Is the 5502A upgradable to 5522A?**No a 5502A is not upgradeable to a 5522A.

14. **Is the 5502E upgradable to 5502A?** No a 5502E is not upgradeable to a 5502A.

15. **Is the 5502E retrofit-able with one of the 5502A scope calibration options?** No the 5502E is not retrofit-able with any of the scope calibration options.

16. **Will the user/operator manual be available together with 5502A at the same time?** Yes, a full user's manual will be available with the 5502A, in English language, supplied on a CD/DVD with the instrument. The getting started manual will translated in several languages, printed and supplied with the instrument.

17. **Is the calibration procedure to calibrate the 5502A will be the same as 5500A?** The performance verification procedure for the 5502A is similar, but not identical to the 5500A procedure. There are some range and specification differences between the two instruments.

18. **Is a service manual available for the 5502A?** The specific test points required in a verification procedure of a 5502A are included in the user's manual. A detailed service manual will be available at approximately one year after introduction.